

CLAIMS:

~~Please cancel claims 9-16 and add following claims 17-36:~~

1-8. (previously cancelled)

9-16. (currently cancelled).

17. (new) A speech decoder that decodes transmitted parameters and reconstructs a speech, comprising:

a first-stage decoding circuit that generates excitation vectors from the transmitted parameters;

a second-stage decoding circuit that performs a speech synthesis, using the excitation vectors, to obtain a reconstructed speech;

an error detector that detects transmission errors in the transmitted parameters; and

a vector modifier located between the first-stage and second-stage circuits that enhances perceptual quality of the reconstructed speech, wherein the vector modifier modifies at least one of the excitation vectors in such a manner as to obtain a variable degree of enhancement determined based on the transmission errors detected by the error detector.

18. (new) A speech decoder according to claim 17, wherein the first-stage decoding circuit comprises an adaptive code decoder and a fixed code decoder.

19. (new) A speech decoder according to claim 18, wherein the vector modifier modifies excitation vectors output from the fixed code decoder.

20. (new) A speech decoder according to claim 17, wherein the second-stage decoding circuit comprises a speech synthesis filter excited by the excitation vectors.

21. (new) A speech decoder according to claim 20, wherein the second-stage decoding circuit further comprises at least one post-processing filter.

22. (new) A speech decoder according to claim 17, wherein the degree of

enhancement performed by the vector modifier decreases as the transmission errors increase.

23. (new) A speech decoder according to claim 22, wherein the parameters are transmitted in discrete time series corresponding to speech frames.

24. (new) A speech decoder according to claim 23, wherein the error detector counts a number of successive frames that contain a transmission error.

25. (new) A speech decoder according to claim 24, wherein the degree of enhancement performed by the vector modifier decreases as the number of successive frames that contain a transmission error increases.

26. (new) A speech decoder according to claim 24, wherein the degree of enhancement performed by the vector modifier is fixed to one degree and becomes zero when the number of successive frames that contain a transmission error reaches a predetermined number.

27. (new) A speech decoder according to claim 17, where the vector modifier comprises one or more preprocessing filters with different degrees of enhancement.

28. (new) A speech decoder according to claim 17, wherein the parameters are created under a coding scheme selected from a group consisting of a Conjugate Structure Algebraic Code Excited Linear Prediction (CS-ACELP) scheme, an Adaptive Predictive Coding (APC) scheme, an Adaptive Predictive Coding with Adaptive Bit Allocation (APC-AB) scheme, an APC-MLQ scheme, an Adaptive Transform Coding (ATC) scheme, a Multi Pulse Coding (MPC) scheme, a Linear Prediction Coding (LPC) scheme, a Residual Excited Linear Prediction Coding (RELP) scheme, a Code Excited Linear Prediction Coding (CELP) scheme, a Line Spectrum Pair Coding (LSP) scheme, and a PARCOR scheme.

29. (new) A speech decoding method for decoding transmitted parameters and reconstructing a speech, comprising the steps of:

- detecting transmission errors in the transmitted parameters;
- generating excitation vectors from the transmitted parameters;
- modifying at least one of the excitation vectors to enhance perceptual

quality of a reconstructed speech in such a manner as to obtain a variable degree of enhancement determined based on the transmission errors detected; and

performing a speech synthesis, using the excitation vectors including the modified at least one excitation vector, to obtain the reconstructed speech.

30. (new) A speech decoding method according to claim 29, wherein modifying at least one of the excitation vectors comprises modifying an excitation vector output from a fixed code decoder.

31. (new) A speech decoding method according to claim 29, wherein the degree of enhancement performed for the reconstructed speech decreases as the transmission errors increase.

32. (new) A speech decoding method according to claim 31, wherein the parameters are transmitted in discrete time series corresponding to speech frames.

33. (new) A speech decoding method according to claim 32, wherein detecting transmission errors in the transmitted parameters comprises counting a number of successive frames that contain a transmission error.

34. (new) A speech decoding method according to claim 33, wherein the degree of enhancement performed for the reconstructed speech decreases as the number of successive frames that contain a transmission error increases.

35. (new) A speech decoding method according to claim 33, wherein modifying at least one excitation vector comprises fixing the degree of enhancement to one degree and stopping modifying the excitation vector when the number of successive frames that contain a transmission error reaches a predetermined number.

36. (new) A speech decoding method according to claim 29, where modifying at least one excitation vector comprises selecting one of one or more preprocessing filters with different degrees of enhancement.